



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/573,039

03/22/2006

Osamu Ito

Q93989

4432

23373 7590 12/22/2008  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

GREGORIO, GUINEVER S

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,039	<b>Applicant(s)</b> ITO ET AL.	
	<b>Examiner</b> GUINEVER S. GREGORIO	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/22/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 6,190,637 B1 (hereinafter ‘637) in view of Toorongian et al. (Routine Production of 2-Deoxy-2-[18F]fluoro-D-glucose by Direct Nucleophilic Exchange on a Quaternary 4-Aminopyridinium Resin; Nucl. Med. Biol.; Vol. 17, No. 3, pages 273-279; 1990).

‘637 teaches a method for manufacturing a [F-18]-fluoride ion used for producing radiofluorinated organic compounds which comprises the steps of bringing [O-18] enriched water containing [F-18]—fluoride ion into contact with a weakly basic anionic exchange which corresponds to ion –containing [18<sup>O</sup>] water into a column packed with

Art Unit: 1793

an ion exchange resin to collect [18F] fluoride ions (claim 1). Furthermore, '637 teaches a tertiary amine wherein P represents styrene-divinylbenzene copolymer and R1 and R2 represents a butyl group (claim 5). '637, does not teach using a quaternary amine, but Toorongian et al. teaches a quaternary amine resin which allows the combination of the collection step, drying and nucleophilic substitution reactions into a single and very simpler procedure. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a quaternary amine for the anion exchange taught by '637 because it simplifies the procedure and reduces the number of steps which would increase yield and decrease the amount of waste produced.

2. Regarding claim 2, '637 teaches a styrene-divinylbenzene which corresponds to polystyrene-divinylbenzene copolymer as evidenced by the MSDS.

3. Regarding claim 3, although claims 1 or 5 of '637 do not teach the amount of water to use to load the sample onto the column it is reasonable to believe that this is a parameter which one of ordinary skill in the art would be able to ascertain without undue experimentation. Furthermore, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. In re Boesch, 205 USPQ 215 (CCPA1980). Additionally, it would have been obvious to one of ordinary skill in the art at the time of the invention have determined the optimum value of a cause effective variable such as [spray droplet size] through routine experimentation in the absence of a showing of criticality in the claimed size. In re Woodruff, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). It would have been obvious to one of ordinary skill in the art at the time of the invention to have determined

Art Unit: 1793

the optimum values of the relevant process parameters through routine experimentation in the absence of a showing of criticality. In re Aller, 105 USPQ 233 (CCPA 1955).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1793

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ino et al. (hereinafter '637) (U.S. Pat. No (6,190,637 B1) in view of Toorongian et al. (Routine Production of 2-Deoxy-2-[18F]fluoro-D-glucose by Direct Nucleophilic Exchange on a Quaternary 4-Aminopyridinium Resin; Nucl. Med. Biol.; Vol. 17, No. 3, pages 273-279; 1990). '637 teaches a method for manufacturing a [F-18]-fluoride ion used for producing radiofluorinated organic compounds which comprises the steps of bringing [O-18] enriched water containing [F-18]—fluoride ion into contact with a weakly basic anionic exchange which corresponds to ion —containing [18O] water into a column packed with an ion exchange resin to collect [18F] fluoride ions (claim 1). Furthermore, '637 teaches a tertiary amine wherein P represents styrene-divinylbenzene copolymer and R1 and R2 represents a butyl group (claim 5). '637, does not teach using a quaternary amine, but Toorongian et al. teaches a quaternary amine resin which allows the combination of the collection step, drying and nucleophilic substitution reactions into a single and very simple procedure. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a quaternary amine for the anion exchange taught by '637 because it simplifies the procedure and reduces the number of steps which would increase yield and decrease the amount of waste produced.
5. Regarding claim 2, '637 teaches a styrene-divinylbenzene which corresponds to polystyrene-divinylbenzene copolymer as evidenced by the MSDS.
6. Regarding claim 3, although claims 1 or 5 of '637 do not teach the amount of water to use to load the sample onto the column it is reasonable to believe that this is a parameter which one of ordinary skill in the art would be able to ascertain without undue

Art Unit: 1793

experimentation. Furthermore, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. In re Boesch, 205 USPQ 215 (CCPA1980). Additionally, it would have been obvious to one of ordinary skill in the art at the time of the invention have determined the optimum value of a cause effective variable such as [spray droplet size] through routine experimentation in the absence of a showing of criticality in the claimed size. In re Woodruff, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). It would have been obvious to one of ordinary skill in the art at the time of the invention to have determined the optimum values of the relevant process parameters through routine experimentation in the absence of a showing of criticality. In re Aller, 105 USPQ 233 (CCPA 1955).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GUINEVER S. GREGORIO whose telephone number is (571)270-5827. The examiner can normally be reached on Monday-Thursday, 10:30-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gsg

December 15, 2008

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1793